

PRE-HEALTH PROFESSIONS PROGRAM

College of Natural and Behavioral Sciences

Examples of Health Professions

- Chiropractic
- Dentistry
- Medicine (MD, DO, ND)
- Optometry
- Physician Assistant
- Pharmacy
- Podiatry
- Veterinary Medicine
- Physical Therapy

Program Description

An important component of the CSUDH undergraduate curriculum is the preparation of students for medicine and other health professional programs, e.g. dentistry, pharmacy, veterinary medicine, physician assistant, etc. This preparation can include a major in the sciences as well as a major in other disciplines, e.g. music, history, English, etc. In fact, a "well rounded" education is viewed very favorably by many health professional school admissions committees, so for even those who major in a science, it is important to obtain a broad liberal arts education by taking electives in the humanities, fine arts and social and behavioral sciences. However, it must be recognized that majoring in a non-science discipline does require completing, and doing well, in the science courses that are pre-requisites for admissions to the health professional schools.

Since many of the professional health schools (e.g. medicine, dentistry, pharmacy, optometry, podiatry) require similar courses as requirements for admissions, this sheet describes the basic CSUDH courses for many "pre-health professional" programs. Generally, the requirements for these health professional schools include one-year lecture and laboratory in general chemistry, organic chemistry, physics and general biology. In addition, health professional schools may require or recommend additional courses in math, cell biology, genetics and biochemistry.

To reiterate, students **must** meet these prerequisites, in addition to those courses of their major.

Students who already have a bachelor's degree in an area other than the sciences may, of course, fulfill the minimum requirements for entrance into these health schools by completing the core requirements through a post-baccalaureate course of study.

Faculty in the sciences, i.e. biology, chemistry and physics often teach the required courses; importantly, CSUDH, students taking these courses benefit from small class size, close instructor contact and active advising programs.

Academic Advising

Regardless of their major, pre-professional health students should be advised by a campus Pre-health Advisor, who has knowledge of the admission requirements of the health professional schools so

as to assist them best in meeting the entrance requirements for the professional school/program.

Since the entrance requirements vary, it is important that the student works with the advisor to determine the specific requirements of each school to which they plan to apply. Notably, Community College transfer students often complete some of the lower division prerequisite courses required at their community college. However, they should consult with the Pre-health advisor, the Advising Center and the University Catalog relative to articulation agreements.

Drs. Thomas Landefeld, from the biology department, and Patrick Still, from chemistry, are the designated CSUDH Pre-health Advisors. Students who are interested in a career in the health professions should make an appointment with them at any stage of their education, preferably as early as possible once they have made that decision. Appointments are made through the Biology office in NSM A-143 and/or by calling (310) 243-3381.

Preparation

It is strongly advised that the student check with individual schools/programs for their requirements and recommendations as some schools may have specific requirements.

The following list represents some general requirements.

Pre-Health Courses

Required courses

- 1 year general biology with lab (e.g. BIO 120 Principles of Biology I (3)/BIO 122 Principles of Biology II (3))
- 1 year general chemistry with lab (e.g. CHE 110 General Chemistry I (5)/CHE 112 General Chemistry II (5))
- 1 year organic chemistry with lab (e.g. CHE 310 Organic Chemistry I (4)/CHE 311 Organic Chemistry Lab I (1)/CHE 312 Organic Chemistry II (3)/CHE 313 Organic Chemistry Laboratory II (2))
- 1 year college math- some schools require statistics while others **may require** calculus (e.g. MAT 171 Survey of Calculus for Management and Life Sciences (4) or MAT 191 Calculus I (5))
- 1 year physics with lab (e.g. PHY 120 Elements Of Physics I (4)/PHY 122 Elements Of Physics II (4) or PHY 130 General Physics I (5)/PHY 132 General Physics II (5))
- 1 year college English (composition)

Recommended courses

- Biochemistry, some require the lab (e.g. CHE 450 Biochemistry I (4)/CHE 451 Biochemistry I Lab (1)) while others do not require the lab- the lecture is strongly recommended, especially for students taking the MCAT
- Spanish (particularly for CA and TX schools, but others may also recommend) – strongly recommended
- Cellular and molecular biology, endocrinology, microbiology, immunology, genetics, developmental biology, psychology represent some other recommended courses
- Several programs require a human anatomy course (with lab) and a human physiology course (with lab), neither of which are offered here at CSUDH

Other possible recommendations

- Dentistry – psychology (may be required), sculpture or fine arts or drafting

- Optometry – psychology (made be required), physiology, neurophysiology
- Veterinary – animal/human nutrition, vertebrate physiology
- Pharmacy – economics and composition (often required); experience in a pharmacy
- Osteopathic medicine – A letter of recommendation from a D.O. (sometimes required)

Additional Experiences that strengthen an application

- Scientific research
- Hospital/health care volunteer services, e.g. COPE Program, Atlantis Project

It is critical that the student speak to the Pre-health advisor to not only discuss a specific career plan but also to better prepare their application regarding such things as a personal statement, obtaining letters of recommendation and choosing schools. Also it is advisable to join the student Pre-health Society (PHS) to participate in activities related to the health professions. However, in addition, the student must familiarize themselves with as much information as possible regarding not only the health professional schools but also about the career itself. An excellent resource for researching health careers is www.explorehealthcareers.org (<http://www.explorehealthcareers.org>).